LABEN	**MARSIS**

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CHANGE RECORD

Issue	Date	Sheet	Description of Change	Release
1	Jan. 03	ALL	First issue of the document applicable to MARSIS DES code SW-A-1090 version 4.1	---

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1. ABSTRACT

The present document describes the structure of the MARSIS DES OST.

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2. KEYWORDS

OST   Operation Sequence Table

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3. INTRODUCTION

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3.1. PURPOSE AND SCOPE

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3.2. STRUCTURE OF THE DOCUMENT

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4. APPLICABLE AND REFERENCE DOCUMENTS

4.1. APPLICABLE DOCUMENTS

[AD.1]   MARSIS PACKET STRUCTURE DEFINITION, TL16927, ISSUE 6.
[AD.2]   MERSIS DES PARAMETERS' TABLE, TL18564, ISSUE 3.

4.2. REFERENCE DOCUMENTS

[RD.1]   MARSIS ON BOARD PROCESSING ALGORITHMS, TNO-MAR-0037-ALS, ISSUE 2.

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5.   OST STRUCTURE

5.1.   FIELDS' CODES

OST field	codes
Mode Duration in PRI (24 bit)	24 bit binary integer grater than zero
Mode Selection (4 bit)	4 bit binary number between 3 and 13 ([AD.1] §.3.3)
DCG Configuration (4 bit)	xxyy: xx refer to the first band transmitted, yy to the second xx (or yy) = 00 -> B1 xx (or yy) = 01 -> B2 xx (or yy) = 10 -> B3 xx (or yy) = 11 -> B4
PIS Band1 Selection (3 bit)	band selection for PIS acquisition in the *first* 5 PRIs of the PIS slot PIS Band1 = 000 -> B0 PIS Band1 = 001 -> B1 PIS Band1 = 010 -> B2 PIS Band1 = 011 -> B3 PIS Band1 = 100 -> B4
PIS Band2 Selection (3 bit)	band selection for PIS acquisition in the *second* 5 PRIs of the PIS slot
PIS RX Selection (1 bit)	PIS RX = 0 -> PIS data from the dipole antenna PIS RX = 1 -> PIS data from the monopole antenna
Reference Functions' Algorithm Selection (2 bit)	RF_Alg_Sel = 0 -> in TRK use the default reference functions RF_Alg_Sel = 01 -> in TRK use contrast method to evaluate the reference functions RF_Alg_Sel = 10 -> in TRK use FSR method to evaluate the reference functions
LOL Logic Main Frequency (2 bit)	xy: x refer to the first band transmitted, y to the second cf. [RD.1] URD.3.4.3.2.3.050 with x = Ab_L_F1 and y = Ab_L_F2
Preset Tracking Selection (1 bit)	PT = 0 -> acquisition/tracking operation PT = 1 -> preset tracking operation
f_NPM Selection (2 bit)	band of the Noise Power Measurament during ACQ f_NPM = 00 -> B1 f_NPM = 01 -> B2 f_NPM = 10 -> B3

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	f_NPM = 11 -> B4
Slope Address Value (4 bit)	4 bit binary integer between 0 and 15, addressing, among 16 available in PT, the value to be assumed by the variable Slope Address (cf.[RD.1] URD.3.4.3.2.2.1.006 parameter theta_s and [AD.2], MASTER PT addresses 83-98)
TX Power (4 bit)	always equal to 1111
A2_0 Abscissa Value (12 bit)	12 bit binary integer ([RD.1] cf. URD.3.4.3.2.2.2.1.015 and [AD.2], MASTER PT addresses 134 and 135)
Individual Echoes or Flash Memory Data Storage Selection	4 bit binary integer number between 0 and 6 (cf [AD.1] §7.7.2)
Number Of Consecutive Frames in Flash Memory	16 bit bynary integer grater than zero

Table 5.1-1 OST FIELDS' CODES

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5.2.   BIT STRUCTURE

48 of 96 bit	4 byte		2 byte				
Bit # 0:47	0:7	8:31	32:33	34:37	38:41	42:44	45:47
bit number of the field	8	24	2	4	4	3	3
field name	Pad	Mode Duration in PRI	Pad	Mode Selection	DCG Configuration	PIS Band1 Selection	PIS Band2 Selection

48 of 96 bit	2 byte							2 byte	2 byte
Bit # 48:95	48	49:50	51:52	53	54:55	56:59	60:63	64:75	76:79	80:95
bit number of the field	1	2	2	1	2	4	4	12	4	16
field name	PIS RX Selection	Reference Functions' Algorithm Selection	LOL Logic Main Frequency	Preset Tracking Selection	f_{NPM} Selection	Slope Address Value	TX Power	A2_0 Abscissa Value	Individual Echoes and Flash Memory Data Sorage Selection	Number of Consecutive Frames in Flash Memory

Table 5.2-1 OST STRUCTURE

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